CB Boatworks	**)**	**Departmental**
Oxford County	**)**	**Findings of Fact and Order**
Peru, Maine	**)**	**Air Emission License**
A-979-71-A-N (SM)	**)**	

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

CB Boatworks of Peru, Maine has applied for a new Air Emission License, permitting the operation of emission sources associated with their boat manufacturing facility.

B. Emission Equipment

CB Boatworks is licensed to operate the following air emission activities:

Process Equipment

Emission Unit	Chemical Compound used in process	2006 Compound Usage (lb/yr)	Type of Equip.	Control Device
Gelcoating	Styrene, Methyl Methacrylate (MMA)	7,980	Spray guns and closed molding	Fan-forced system through filters
Lamination	Styrene	159,000	Spray guns and closed molding	Fan-forced system through filters
Catalyst (gelcoating and lamination)	Organic peroxide initiator	3,352	Hand layup	Fan-forced system through filters
Cleanup	Acetone	5,746	Job Shop	None
Mold cleaner	Misc VOC chemicals	133	--	None
Mold release	Misc VOC chemicals	266	--	None

CB Boatworks operates a small boiler (0.16 MMBtu/hr) and heaters less than 1.0 MMBtu/hr heat input capacity and are noted for inventory purposes only.

C. Application Classification

The new source is considered a major source based on whether or not expected emissions exceed the "Significant Emission Levels" as defined in the Department's regulations. The emissions for the new source are determined by the maximum future license allowed emissions, as follows:

Pollutant*	Max. Future License (TPY)	Sig. Level
PM	N/A	100
PM_{10}	N/A	100
SO_2	N/A	100
NO_x	N/A	100
CO	N/A	100
VOC	24.9	50
Single HAP	9.9	10
Total HAP	24.9	25

* All fuel burning equipment at CB Boatworks is considered "insignificant"; therefore there are no calculated licensed allowed emission limits for particulate, SO_2, NOx, and CO emissions.

The Department has determined the CB Boatworks facility is a minor source and the application has been processed through Minor Source Air Emission License Regulations, 06-096 CMR 115 (last amended December 24, 2005). With the VOC and HAP limits on the process equipment at the facility, CB Boatworks is licensed below the major source thresholds and below 06-096 CMR 137 reporting thresholds. Therefore, the facility is considered a synthetic minor.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

1. General

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Definitions Regulation, 06-096 CMR 100 (last amended December 24, 2005). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in Definitions Regulation, 06-096 CMR 100 (last amended December 24, 2005). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

2. Process Description

CB Boatworks is located in Peru, Maine. Since its beginning of operations, CB Boatworks has built for the Alcar line, a small regional boat manufacturer located in Rhode Island. The facility also builds other manufacturing components along with commercial and industrial parts for many diversified applications. Manufacturing operations consists of open and closed molding of fiberglass, primarily hand-lay and spray-up application – with some assembly of component parts. The boat hulls are built using primarily gelcoat, fiberglass and resin. Other raw materials include kevlar, carbon fiber, paint, varnish, wood, foam, etc.

For licensing purposes, the manufacturing process is divided into the following process areas: Fiberglass Lamination, Gelcoat Application, Assembly, and Maintenance Activities.

Fiberglass Lamination and Gelcoat Application

The manufacturing of fiberglass boats at CB Boatworks begins with hull construction, using a combination of the open contact mold and closed mold methods. This portion of CB Boatworks' process utilizes unsaturated polyester and vinyl ester resins and gelcoats. The resins typically contain a styrene monomer and/or epoxy as the linking agent, which partially volatilize during application and curing. The open contact mold method consists of applying layers of gelcoat or resin impregnated fiberglass reinforcement on an open mold. This process produces the majority of VOC emissions.

The initial step in the lamination process is the spraying of a gelcoat layer on the waxed mold surface. Gelcoating is the application of a layer of resin with no reinforcing materials contained in it. The gelcoat contains unsaturated polyester resin, catalyst, and pigments to create the smooth outer surface of the hull, deck, or part. Upon applying the gelcoat layer to the desired thickness, an initial layer of reinforced fibers is placed with resin in what is referred to as the "skin-coat". A hose assembly supplies the hand held "chopping" spray gun with resin and catalyst. Fiberglass roving is pulled from bulk containers by the chopper and is guided to the spray gun tip through a series of eyelets on a boom. The fiberglass is applied in 1/2 to 1-inch lengths. The catalyst serves as

an initiator of the polymerization reaction. Depending on ambient conditions, an inhibitor may be added to the resin to control gel curing time (i.e. to slow down polymerization reaction time in warm weather). The hull is left to cure following the initial backup layer. After proper curing of the hull, the subsequent layers of reinforced materials such as fiberglass, Kevlar and/or carbon fiber are applied to the hull. The thickness of the lamination depends on both the style of boat and the location within the hull (i.e. high stress areas will have more layers applied). For a part being made using the closed molding technology (vacuum infusion), the structural materials are then covered by plastic and the resin is drawn through the structural materials and allowed to cure. There are no exposed resin surfaces in this closed-mold process; thus VOC emissions are virtually eliminated. An increased rate of polymerization is achieved with the closed mold method relative to an open mold process due to the elimination of airflow across the surface of the product.

Assembly and Maintenance Activities: Including Grinding, Sanding, & Buffing
Assembly at CB Boatyards comprises of adhering the deck to the hull. Grinding, sanding, machining, and buffing of fiberglass surfaces are performed at this stage. VOC emissions result from the use of glues, putties, resins, cleaning solvents, and occasional touch up/repair work. Grinding, buffing, sanding, cutting, etc generate PM_{10} emissions. Final assembly is done at a sister facility in Massachusetts which installs engines, deck hardware, instrument panels, and other interior items.

Current ventilation consists of a natural and fan-force system through the side of the building. CB Boatworks plans to install a fan-forced stack through the roof with filters to trap particulates in the future. This license will require routine maintenance on this system after installation.

B. BACT Determination

1. General

CB Boatworks manufactures reinforced composite boats at their facility located in Peru, Maine. The facility currently emits approximately 5 tons per year of styrene; however, it has the potential to be a major source of HAP and VOC. Styrene is listed by EPA and the Department as a hazardous air pollutant (HAP), a volatile organic compound (VOC), and a toxic air pollutant. The majority of VOC and HAP emissions from the facility are attributed to the use of resins and gelcoats in the production of fiberglass boat hulls.

Due to the low concentration of air pollutants and high air flow rates associated with CB Boatworks' various processes, conventional emission control devices are cost prohibitive. The U.S. Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL) for styrene is 100 ppm, thus large amounts of ventilation air are necessary in order to operate below the PEL. CB Boatworks has tested the styrene vapor concentration in their facility at approximately 19 ppmv. VOC control equipment are inefficient at concentrations less than 1000 ppm. Add-on controls used in other VOC emitting industries have not been successfully applied to the boat building industry. CB Boatworks submitted an extensive BACT analysis along with its application. It focuses on the control of emissions from each process or activity at the facility.

The add-on control technology options studied included: adsorption, biofiltration, condensation, flares, photolysis, oxidation, regenerative thermal oxidation (RTO), regenerative catalytic oxidation (RCO), and carbon rotor bed system. The conclusions from this analysis of several add-on control technologies found them either technically or economically infeasible. For the detailed description of this analysis, please refer to the CB Boatworks application received by the Department July 13, 2007. BACT will focus on potential pollution prevention techniques and continued development of closed molding technology where applicable for VOC and HAP control from the facility.

CB Boatworks estimates VOC and HAP emissions based on monthly purchases of VOC and HAP containing material, which are assumed to be used in the month they were purchased. Styrene and MMA emissions are estimated using the Unified Emission Factor (UEF) estimation model for open molding of composites or through the use of a standard emission factor of 1% of available styrene for closed molding processes. All other VOC and HAP emission estimates are on a material balance basis.

2. Fiberglass Lamination and Gelcoat Application

VOC/styrene emissions from the open-mold method of fiberglass lamination and gelcoat application are attributed to evaporation of resin or gelcoat over-spray and vaporization from the applied resin or gel coat prior to polymerization. For this analysis, the actual VOC emitting equipment from open and closed mold resin and gelcoat application includes spray guns and a vacuum infusion system.

The maximum potential VOC emissions from fiberglass and gelcoat application are a function of the potential quantity of resin. Essentially all of the VOC present in the resin is styrene. Due to polymerization of the styrene monomer, not all of the VOC as delivered is volatilized. The majority of resin at CB Boatworks is applied using a non-atomized mechanical method.

3. Examination of Pollution Prevention Methods

The pollution prevention options that are available to a polyester or vinyl ester resin operation are closed-mold technology, efficient resin application techniques, low styrene resins and gelcoats, and vapor suppressed resins containing a paraffin constituent.

The most effective pollution prevention option available to CB Boatworks is the use of a closed-mold system. The closed-mold system reduces emissions by placing the resin material in a confining mold cavity and drawing a vacuum on the cavity. This technology reduces the exposed surface area of the part during the lamination and curing processes, thus reducing emissions. The use of a closed mold system reduces VOC emissions by more than 95% relative to uncontrolled levels. Since the styrene is drawn under vacuum between a plastic cover and the skin coat and allowed to cure while under a vacuum, styrene does not contact the air and as a result does not volatilize. There are two points at which styrene may contact the air during the vacuum infusion process. One is the container that the vacuum draws the resin out of and another is in the air that passes through the vacuum system pumps. Based on test data it has been shown that emissions from the vacuum infusion process are approximately 0.013% of available styrene. CB Boatworks is currently using this method on some small components/parts however it does not use closed-mold technology on its hulls. The hulls at CB Boatworks vary in size, shape, and purpose making closed molding difficult to use on such variable products. To meet BACT requirements, CB Boatworks will continue the use of the closed mold method when feasible to minimize VOC emissions and continue to research future closed molding opportunities for their process.

Airless spray guns can be used to minimize over-spray of resin and gelcoat during open molding. Airless spray guns are defined as non-atomized spray guns in which the coating fluid is not supplied to the gun under fluid pressure and air is not added to the gun. CB Boatworks use spray-guns that mix air, catalyst and resin externally. CB Boatworks uses these guns to apply gelcoat and resin. These guns are also used as a chopper gun to apply both resin and chopped fiberglass strands simultaneously.

To meet BACT, CB Boatworks will continue the use of airless spray guns or manual application for open molding processes and that all future resin and gelcoat spray application equipment replacements and purchases will consist of either airless spray guns or flow coaters. Flow coaters do not atomize the resin as the resin is internally mixed and ejected at low pressures without the assistance of air. It is not currently a viable option to use flow coaters for the application of gelcoat as it needs to be applied at a uniform consistency.

PM_{10} emissions are generated by over-spray during the application of resin and gelcoat. To control these emissions and to meet BACT, CB Boatworks has installed filters on all forced ventilation points that are adjacent to the spray gun operations.

4. Assembly and Maintenance Activities: Including Grinding, Sanding, & Buffing
Fugitive particulate emissions are generated in the production of the hull molds from grinding, sanding, and cutting operations. CB Boatworks utilizes various particulate control systems that vent internally to control particulate emissions, resulting from machining, buffing, grinding and sanding of fiberglass, metal or wood. Most particulate emitting maintenance activities such as sanding/grinding takes place indoors.

   VOC emissions in these areas are minimal and result from the use of adhesives, glues, putties, patching/modification, and cleaning chemicals. Given the minimal quantity of VOC emissions from these activities control equipment is not warranted or economically feasible. To reduce VOCs, CB Boatworks will use low VOC content products, such as citrus and water based cleaners, when possible and will continue to review alternative products. Acetone, which is neither a VOC or HAP, is also used, however, the facility should consider alternative citrus and/or water based cleaners when possible.

   The use of filters to control forced ventilation systems that exhaust outside the facility represents BACT for particulate emissions.

5. Clean-up Solvents
The use of clean-up solvents in each phase of manufacturing and maintenance at CB Boatworks has accounted for a significant portion of overall VOC emissions in the past. There are no add on controls that are technically and economically feasible for the control of VOC emissions from cleanup solvents, therefore, this BACT analysis focuses on pollution prevention options.

A pollution prevention option available to decrease solvent emissions is substitution with less volatile solvents or water-based emulsions. The water-based emulsions must be maintained in a heated cleanup vessel at 100^{o}F. The main disadvantages of using water based emulsions are the initial capital and annual costs associated with the heating systems, plus a solvent based cleaner must still be used for gel coat cleanup and spray gun cleaning and a rinse with a solvent based cleaner is required for equipment used for lamination. In light of their inherent disadvantages, CB Boatworks will continue to search for and test water based solvents in an effort to minimize emissions, whenever possible.

Acetone is frequently used to clean the gelcoat and resin application equipment. Acetone has been de-listed as a VOC and is not a Hazardous Air Pollutant (HAP). CB Boatworks primarily uses acetone for cleanup purposes. To meet BACT, the facility will use, when feasible, lower vapor pressure cleanup solvents, in addition to researching and testing other cleanup products (water based) in an effort to decrease further the emissions to the atmosphere. CB Boatworks will store all materials not in use in containers secured with lids. All wash stations using solvent based solutions will utilize canisters with closing lids and clean up rags will be stored in sealed containers, when feasible (i.e. fire hazards). These housekeeping measures shall function to effectively control emissions to the atmosphere.

6. Recordkeeping

As part of BACT for VOC and HAPs control, CB Boatworks shall maintain, and make available upon request, a current list of all resins and cleaning materials in use. This list shall provide the necessary data to determine compliance, including:

a) Resin catalyst, and cleaning materials in use.
b) Percent VOC by weight for each resin, and the pounds VOC per gallon of cleaning materials.
c) The amount and type of resin materials purchased on a monthly basis
d) The amount and type of cleaning materials purchased on a monthly basis

The monthly totals of VOCs and HAPS shall be calculated and tracked on a 12 month rolling average basis.

CB Boatworks shall maintain these records for 6 years and make them available upon request from the DEP.

7. Conclusions of BACT Summary

Based on the results of an air emission inventory for 2006, CB Boatworks emitted approximately 5 tons of VOC. CB Boatworks anticipates that

production may grow and therefore emissions may increase, however, the facility wide VOC limit of 24.9 tons per year allows for production increases. CB Boatworks shall meet the following BACT requirements for the control of VOC and HAPs:

- Continue to use the closed-mold technology whenever economically and technologically feasible for the manufacture of fiberglass boats and boat parts;
- Use controlled spray techniques when using mechanical sprayers for the application of gelcoats and resins;
- Use manual application methods for open-mold resin processes, when technologically appropriate;
- Limit overall facility-wide VOC emissions to 24.9 tons per year;
- Limit facility-wide HAP emissions to 9.9 TPY for any single HAP and 24.9 TPY for total HAPs;
- Conduct manufacturing and feasibility test trials of pollution prevention technologies such as low styrene resins and water-based or low vapor pressure cleaning solvents as they become commercially available;
- Maintain good housekeeping practices (i.e., lids on, proper storage of open containers, etc.);
- Maintain records of monthly resin, gel coat, paints, and solvent purchases facility-wide.

In addition to VOC and HAP control, CB Boatworks will meet the following BACT requirements for particulate matter (PM) from various boatyard activities:

- Control PM emissions from any cutting, buffing, grinding, or sanding processes that vent to the ambient air via vent or duct through the use of a particulate filter such that opacity will not exceed 10% for any one, six minute block average;
- Reduce the potential for fugitive PM emissions from any process conducted outside by limiting such activity to periods of calm winds or through the use of a shroud or wind curtain.

Due to the relatively small size of each individual unit, the fuel burning equipment at the facility does not warrant the installation of add-on air pollution control devices. The fuel burning equipment uses #2 distillate fuel oil the meets the criteria in ASTM D396 for #2 fuel oil. The fuel burning equipment are considered an “insignificant activity” per 06-096 CMR 115.

C. Annual Emission Restrictions

CB Boatworks shall be restricted to the following annual emissions, based on a 12 month rolling total:

Total Licensed Annual Emissions for the Facility
(used to calculate the annual license fee)

Pollutant	Tons/yr
PM	--
PM_{10}	--
NO_X	--
SO_2	--
CO	--
VOC	24.9
Single HAP	9.9
Total HAPS	24.9

40 CFR Part 63 Subpart VVVV

On August 22, 2001 the EPA promulgated the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Boat Manufacturing. The NESHAP requires all major sources of HAPs to meet emission standards that reflect Maximum Achievable Control Technology (MACT). CB Boatworks has the potential to emit VOC and HAPs above the major source threshold; however, the facility has applied to be synthetic minor with federally enforceable emission limits below these thresholds. Therefore, CB Boatworks must limit organic HAP emissions from open molding operations to the limit specified by equation 1 of 40 CFR Part 63, Subpart VVVV, based on a 12-month rolling total.

$$\text{HAP Limit} = [46\ (M_R) + 159\ (M_{PG}) + 291\ (M_{CG}) + 54\ (M_{TR}) + 214\ (M_{TG})]$$

Where:

HAP Limit= total allowable organic HAP that can be emitted from the open molding operations, kilograms.

M_R= mass of production resin used in the past 12 months, excluding any materials exempt under paragraph (d) of this section, mega grams.

M_{PG}= mass of pigmented gel coat used in the past 12 months, excluding any materials exempt under paragraph (d) of this section, mega grams.

M_{CG}= mass of clear gel coat used in the past 12 months, excluding any materials exempt under paragraph (d) of this section, mega grams.

M_{TR}= mass of tooling resin used in the past 12 months, excluding any materials exempt under paragraph (d) of this section, mega grams.

M_{TG}= mass of tooling gel coat used in the past 12 months, excluding any materials exempt under paragraph (d) of this section, mega grams.

III. AMBIENT AIR QUALITY ANALYSIS

According to 06-096 CMR 115, the level of air quality analyses required for a minor new source shall be determined on a case-by case basis. Based on the information available in the file, and the similarity to existing sources, Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source.

ORDER

Based on the above Findings and subject to conditions listed below the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-979-71-A-N subject to the following conditions:

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

STANDARD CONDITIONS

(1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.A. §347-C).

(2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]

(3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]

(4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]

(5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [06-096 CMR 115]

(6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]

(7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]

(8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]

(9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]

(10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]

(11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:

A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
   1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
   2. pursuant to any other requirement of this license to perform stack testing.

B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and

C. submit a written report to the Department within thirty (30) days from date of test completion.

[06-096 CMR 115]

(12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:

A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and

B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated

under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and

C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[06-096 CMR 115]

(13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]

(14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 CMR 115]

(15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

SPECIFIC CONDITIONS

(16) Process Emission

a. CB Boatworks shall maintain good housekeeping practices (close lids, proper storage of open container, etc.) and control emissions from the entire existing and future processes to less than: 24.9 tons/year of VOC emissions, 9.9 tons/year of a single HAP and 24.9 tons/year of total HAPs.

b. CB Boatworks shall calculate these emissions on a 12-month rolling total basis, based on the method as specified in Condition (17), (18), and (21).

[06-096 CMR 115, BACT]

(17) To ensure compliance with BACT for VOC and HAPS, CB Boatworks shall record the quantity of resins, gel coats, paints, and solvents used at the facility and also the VOC and HAP content of each, and any other applicable information for each of the following:

A. Monthly Facility Purchases for use at the facility
B. Quantity shipped off Site

[06-096 CMR 115, BACT]

(18) The mass balance equation shall be defined as follows to determine monthly VOC emissions for the applicable boat manufacturing departments (utilizing the data collected from Condition (17) and any other applicable data:

A. Monthly Facility Purchases
B. Quantity Shipped offsite

Monthly VOC Emissions = (A x VOC content) - (B x VOC content)

When calculating VOC emissions from open molding resin and gel coat procedures, the current version of the American Composites Manufacturers Association (AMCA, formerly the CFA) unified emission factors shall be used in the "Monthly VOC Emissions" equation.

The styrene emission rate for the vacuum infusion method is assumed to be 1%.

[06-096 CMR 115, BACT]

(19) To ensure compliance with BACT for VOC control, CB Boatworks shall continue to research pollution prevention technologies such as low styrene resins and closed mold systems. [06-096 CMR 115, BACT]

(20) CB Boatworks shall continue to use airless spray guns for the application of gelcoats and resins and shall replace standard spray guns with high transfer efficiency units such as airless spray equipment and flow coaters as they wear out.

[06-096 CMR 115, BACT]

(21) CB Boatworks shall limit the facility's organic HAP emissions to 9.9 tons per year of any single HAP and 24.9 tons per year of combined total HAPs to avoid being a considered a major source and subject to the federal boat building MACT, 40 CFR Part 63 Subpart VVVV. The HAP emissions can be calculated by equation 1 of this Subpart, based on a 12-month rolling total.

$$\text{HAP Limit} = [46\ (M_R) + 159\ (M_{PG}) + 291\ (M_{CG}) + 54\ (M_{TR}) + 214\ (M_{TG})]$$

[40 CFR Part 63 Subpart VVVV]

(22) CB Boatworks shall properly maintain all dust collection equipment in the facility and make repairs as necessary to prevent system leakage.
[06-096 CMR 115, BACT]

(23) Particulate matter emissions from exhaust fan filters are generally unquantified; therefore particulate matter emissions shall be limited to 10% opacity based on a 6 minute block average basis. [06-096 CMR 115, BACT]

(24) **Parts Washer**

Parts washers at CB Boatworks are subject to Solvent Cleaners, 06-096 CMR 130 (last amended June 28, 2004).

A. CB Boatworks shall keep records of the amount of solvent added to each parts washer. [06-096 CMR 115, BPT]

B. The following are exempt from the requirements of 06-096 CMR 130 [06-096 CMR 130]:
   1. Solvent cleaners using less than two liters (68 oz) of cleaning solvent with a vapor pressure of 1.00 mmHg, or less, at 20° C (68° F);
   2. Wipe cleaning; and,
   3. Cold cleaning machines using solvents containing less than or equal to 5% VOC by weight.

C. The following standards apply to remote reservoir cold cleaning machines that are applicable sources under Chapter 130.

   1. CB Boatworks shall attach a permanent conspicuous label to each unit summarizing the following operational standards [06-096 CMR 130]:
      (i) Waste solvent shall be collected and stored in closed containers.
      (ii) Cleaned parts shall be drained of solvent directly back to the cold cleaning machine by tipping or rotating the part for at least 15 seconds or until dripping ceases, whichever is longer.

(iii) Flushing of parts shall be performed with a solid solvent spray that is a solid fluid stream (not a fine, atomized or shower type spray) at a pressure that does not exceed 10 psig. Flushing shall be performed only within the freeboard area of the cold cleaning machine.
(iv) The cold cleaning machine shall not be exposed to drafts greater than 40 meters per minute when the cover is open.
(v) Sponges, fabric, wood, leather, paper products and other absorbent materials shall not be cleaned in the degreaser.
(vi) When a pump-agitated solvent bath is used, the agitator shall be operated to produce no observable splashing of the solvent against the tank walls or the parts being cleaned. Air agitated solvent baths may not be used.
(vii) Spills during solvent transfer shall be cleaned immediately. Sorbent material shall be immediately stored in covered containers.
(viii) Work area fans shall not blow across the opening of the degreaser unit.
(ix) The solvent level shall not exceed the fill line.

2. The remote reservoir cold cleaning machine shall be equipped with a perforated drain with a diameter of not more than six inches. [06-096 CMR 130]

(25) **Fugitive Emissions**

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed an opacity of 20%, except for no more than five (5) minutes in any 1-hour period. Compliance shall be determined by an aggregate of the individual fifteen (15)-second opacity observations which exceed 20% in any one (1) hour. [06-096 CMR 101]

(26) **General Process Sources**

Visible emissions from any general process source shall not exceed an opacity of 20% on a six (6) minute block average basis, except for no more than one (1) six (6) minute block average in a 1-hour period. [06-096 CMR 101]

(27) **Payment of Annual License**

CB Boatworks shall pay the annual air emission license fee within 30 days of **September 30th** of each year. Pursuant to 38 MRSA §353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under 38 M.R.S.A. §341-D, §§ 3.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2007.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:_____
DAVID P. LITTELL, COMMISSIONER

The term of this license shall be five (5) years from the signature date above.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: July 13, 2007
Date of application acceptance: July 23, 2007

Date filed with Board of Environmental Protection:_____

This order prepared by Edwin Cousins , Bureau of Air Quality